

Annual Review 2015



FROM RESPONSIBLE
TO IMPACT INVESTMENTS •
ESG CONVICTIONS •
INNOVATIVE & IMPACTFUL
SOLUTIONS •
ESG INTEGRATION •
CLIMATE CHANGE •
ACTIVE STEWARDSHIP •
GREEN BONDS •
TAILORED RI SOLUTIONS

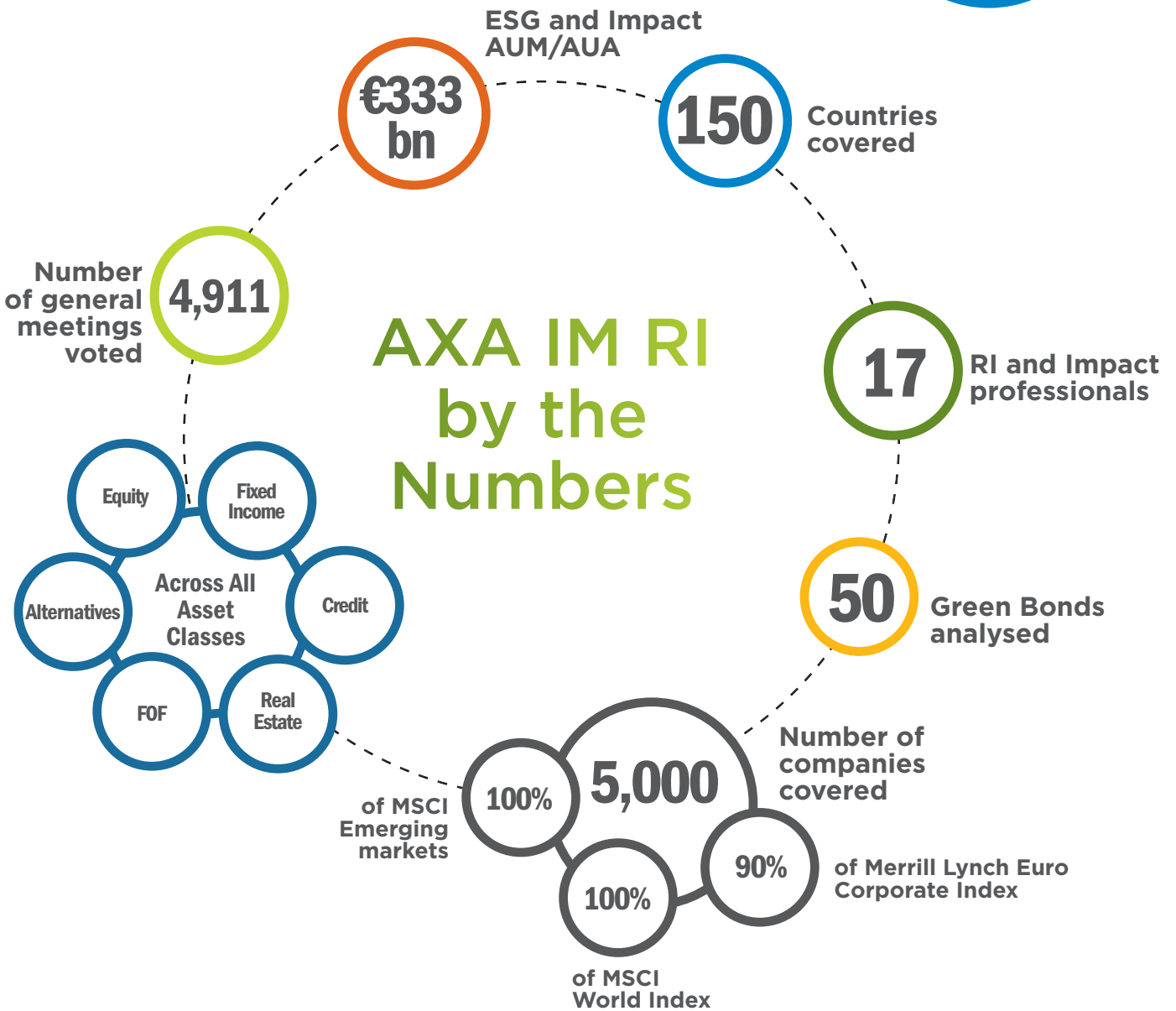
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OUR PHILOSOPHY

Where Finance belongs - We believe in harnessing the power of capital towards sustainable and impactful investments that address societal challenges.

OUR MISSION

To be the global RI and Impact Centre of Excellence that delivers sustainable value to our clients.



Source: AXA IM as at 31.12.2015



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MATT CHRISTENSEN
Global Head of Responsible Investment



2015 IN REVIEW

Undoubtedly, 2015 was the 'Big Bang' equivalent for Responsible Investment (RI). Culminating in The Paris Accord at the United Nations' COP 21 meetings held in Paris, climate change was the lever used to push RI boldly into the mainstream of asset management. In the future, 2015 will be viewed in the same vein as 1987 for the City of London with the developments that led to its present status as the global financial centre. RI is no longer an option based on a compliance rationale – it is now a must-have and will lead to a race to the top for the asset management industry in its embrace and integration of environmental, social and governance (ESG) factors and Impact-based outcomes.

Nonetheless, we should also note that the bull market that started in 2009 clearly tapered off in 2015. Financial markets - faced with lower growth in emerging economies, a challenging political situation about the future of the EU, and an upcoming presidential election in the USA – increasingly need to demonstrate the utility of finance as a means to boost growth. Responsible Investment is part of the answer to this need through its focus on ESG risks and outcomes in the form of positive impacts.

AXA IM has been strongly positioned in Responsible Investment for a long time and was able to respond to the many client demands that culminated around the COP 21 event. These demands bridged asset classes, geographies and themes.

Perhaps one of the most significant achievements for AXA IM in 2015 was being awarded a mandate by Big Society Capital that clearly represents the future of RI and positions us at the cutting edge of the field. The AXA IM RI team partnered with the AXA IM Fixed Income group to secure this UK-based mandate that combines ethical exclusions, ESG optimised integration in the portfolio construction process and concrete measurements of the impact outcomes.

Fixed Income was also a leading asset class behind the launch of our Planet Bond strategy in November with an innovative approach for assessing the integrity of the rapidly expanding green bond issuances. With the increasing popularity of green bonds, an important role for ESG fundamental research is to avoid 'green washing' in the portfolio which is always a risk in an area where common definitions still do not exist.

As mentioned previously, the AXA IM RI team is well positioned for the upswing in demand. Last year represented a step change in the demands that our team received and we have already started the expansion of resources needed to cover and anticipate this growth. The skills required now to competently answer the richness of client demands include; know-how in multiple asset classes, economic sector depth, and thematic expertise.

The AXA IM RI team has become one of the largest and most experienced in the RI field. This depth and breadth means that we will keep offering pragmatic, innovative and impactful solutions covering the full range of RI aspects such as corporate governance engagement, climate change transition and outcome measurement – that is, the range from SRI filtering to ESG integration to Impact solutions.

POST COP21 - AXA IM OUTLOOK



TOUS ENSEMBLE
POUR LE CLIMAT

cop21.gouv.fr #COP21

The climate change 'Paris Accord' reached at COP21 sends a clear message to companies operating in the power generation, energy, transport, building and industrial sectors: change is required and it needs to happen now. In our view,

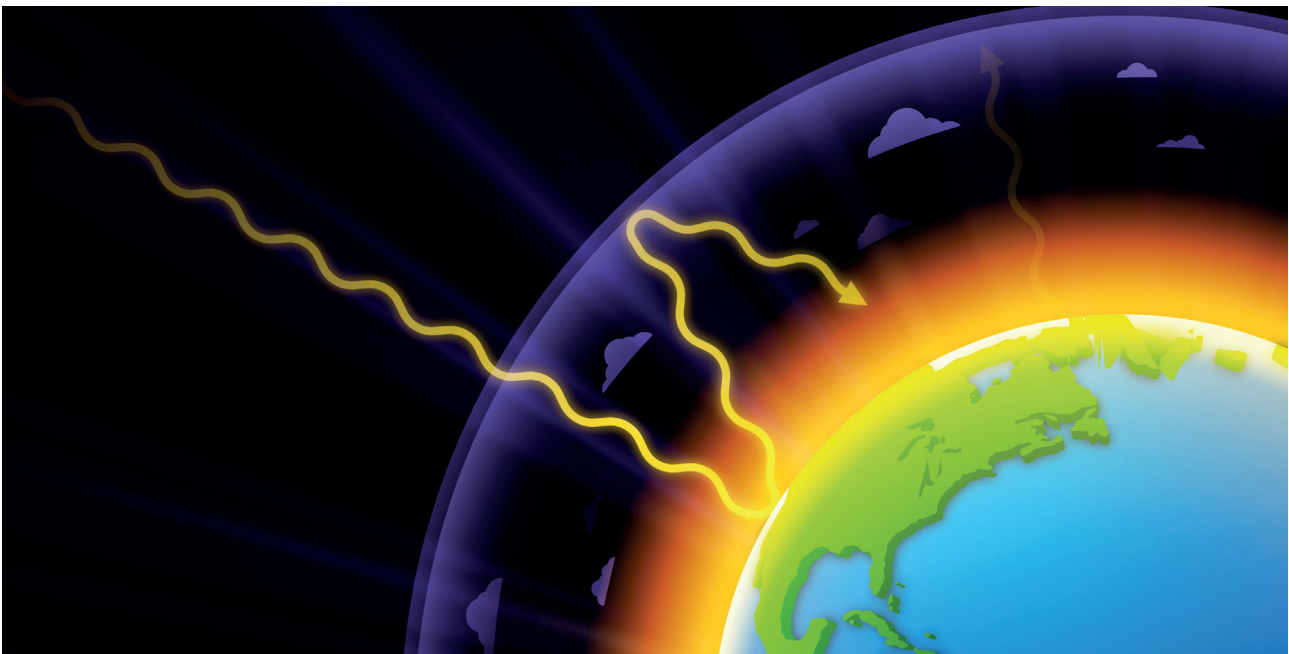
the emerging investment opportunities and governance implications from this agreement include:

- › Carbon-intensive sectors: An impact on asset allocation is likely in the long-term, however the more immediate effect is that analysts and investors will incorporate climate change into research and fundamental analysis.
- › Opportunities to finance the transition to a low-carbon economy: public and private investors will be key sources of capital for investment in new technologies that support energy efficiency. The opportunity will impact many sectors, regions and asset classes. In the meantime, the French Regulator is already pushing private investors to integrate ESG and climate change in their investment decisions.

- › Greater engagement and higher governance standards: The Financial Stability Board will be pushing companies to disclose their climate related risks, increasing transparency and making ESG analysis and scoring more robust. Engagement will allow investors to have a better view of the progress made by companies in moving to cleaner technologies and more environment friendly business models.

We believe the trend of investors divesting from the highest carbon intensive sectors will now accelerate. So far, more than 500 institutions have divested, representing close to \$3.4 trillion in assets¹.

2015 was the fourth consecutive record year in green bond issuance, and the market now stands at USD 100 billion². Corporates are now the largest issuers, a market previously dominated by supranationals and agencies. The pace of issuance has accelerated, partly due to COP21, but also due to the development of voluntary standards for issuing green bonds in India and China.



¹ Fossil Free 2015

² Bank of America Merrill Lynch, December 2015

POST COP21 FRENCH ENERGY TRANSITION LAW



In August 2015, France passed the Energy Transition Law, the first of its kind in Europe. It will come into full effect in June 2017. We believe that this law constitutes a landmark for RI. It shows how regulation can encourage the rising trend for RI and provide strong support for its further development. France has decided to provide a clear signal to institutional investors with this law by encouraging them to become truly engaged in RI and start considering how to better integrate environmental, social and governance (ESG) factors in their investments. The law reinforces the role of institutional investors in financing the transition towards a low-carbon economy and requires more awareness of long-term issues in investment decisions.

The law is focused on two key aspects. The first concerns the annual publication of evidence showing how relevant parties are integrating ESG criteria in their investment strategies. The second focuses specifically on environmental criteria and requires investors to explain the measures they have implemented to support the transition towards a low-carbon economy each year.

While this is a highly positive development, investors still need to better understand what these requirements mean for them. This is a particularly important issue for smaller institutional investors, who may require more support in the energy transition.

Asset managers can help investors through this transition by providing different solutions and instruments of measure, such as alternative indicators to CO₂ emissions to identify companies that are contributing positively or negatively towards the transition to the low-carbon economy. This also includes actively participating in engagement campaigns centred around climate change for high carbon intensive sectors, such as oil and gas, automotive and mining.

It is likely that this regulatory signal sent by the French government will be used as an incentive by working groups such as the FSB Task Force on Climate Related Financial Disclosure (TCFD) or by other European countries that are also improving their knowledge and awareness of RI.



NOTABLE CLIENTS

BIG SOCIETY CAPITAL



In 2015, Big Society Capital, an organisation with a remit of growing the social investment market in the UK, collaborated with AXA Investment Managers and Cambridge Associates to develop an innovative approach for managing their treasury portfolio. The AXA IM solution combines the conservative approach to managing treasury reserves using a buy and maintain credit strategy, with full integration of ESG analysis to further minimise risk, and the alignment of the portfolio with the Social Impact objectives of Big Society Capital. In our novel solution, the combination of the buy and maintain credit approach and the ESG/Impact approach complement and reinforce each other and gives the portfolio its identity and direction.

Big Society Capital's ESG/Impact buy and maintain credit portfolio was constructed using AXA IM's investment process³. This approach integrates ESG and Impact considerations into all aspects of the investment process from portfolio construction and management to portfolio monitoring. According to Big Society Capital, the primary reason for selecting AXA IM was our capacity to deliver a truly integrated ESG/Impact and fixed income solution. The nature of the mandate required not only expertise in all areas, but a clearly defined process for integrating all three aspects into one solution.

The performance of the portfolio will be measured by three types of indicators:

- › **Financial:** ultimately, capital preservation
- › **ESG:** integration and risk mitigation and avoidance of controversial investments
- › **Impact:** generation of social returns

On the financial performance side, success will be measured by how well it delivers on its overriding objective of capital preservation. We aim to achieve this via a low turnover approach which aims to avoid all defaults, maximise the captured market yield, minimise downgrades to sub-investment grade, and avoid performance leakage caused by unnecessary trading.

³ AXA IM's proprietary investment process is outlined in detail in Moret, Collado and Maisonnac (2015) "An ESG Integrated Approach to Buy and Maintain Credit Investing." Investor Thinking, AXA Investment Managers.



ESG performance will be a function of the extent to which the integration of ESG considerations contributes to the mitigation of portfolio risks. Success will be a function of the optimisation of the ESG profile of the portfolio by focusing on pre-determined and objective ESG key performance indicators.

Impact success will be defined by the extent to which the portfolio is aligned with five key impact themes: **Sustainable Living, Financial Inclusion, Health & Wellbeing, Education & Training and Environment & Climate Change Mitigation.** The portfolio will aim to maximise allocation to 'Tier 1 Impact' (strongest Impact category) bonds over time. At inception, around 30% of the portfolio was invested in the 'Tier 1 Impact' category. Five years from now, a 'Tier 1 Impact' allocation of 70% would be considered a successful level of impact incorporation and generation.

The development of this solution for Big Society Capital's treasury portfolio marks a significant breakthrough for generating social impacts without compromising on portfolio returns. This solution has the potential to drive the Social Impact investment market to a new level. Should pension funds, foundations and other institutional investors follow this lead, billions of untapped assets could be deployed to generate greater social value in the coming years.



INVESTMENT INNOVATION

PLANET BONDS STRATEGY

In 2015, AXA IM launched its Planet Bonds strategy: a diversified solution investing in the transition to a low-carbon economy, through green bonds and issuers which have positive environmental impact.

Opportunities in a growing green bond universe. The strategy invests mainly in green bonds, which can potentially offer the same returns as comparable conventional bonds with the added advantage of enabling projects with environmental benefits. Given a relatively nascent green bond market, diversification is achieved by investing in issuers facilitating the transition to the low-carbon economy, while displaying robust fundamentals.

Potentially attractive yield. As a solution for investors looking to shift conventional investments towards specific environmental investments, the strategy has the potential to provide an attractive yield. This means that the investor should be able to retain attractive yield levels relative to the wider fixed income universe, while making a positive environmental impact.

A natural fit with RI. The combination of our fixed income and RI experts enables us to make a holistic assessment of each issuer, from

KEY POINTS

FIXED INCOME
AXA Planet Bonds Strategy

NOVEMBER 2015
This document is intended exclusively for professional clients under MiFID



Olivier Vetti
Lead Portfolio Manager
AXA Planet Bonds Strategy



Mat Christensen
Global Head, Responsible Investment

"We created a solution for investors to shift conventional investments to specific environmental investment needs as climate change becomes a major issue for all of us. This commitment has been materialised through this solution which invests in green bonds and bonds from issuers which deliver positive environmental impacts."

The Green Bond Universe

- > A rapidly growing market: \$78bn (excluding issues raised in 2015)
- > No yield sacrifice compared to a conventional bond¹
- > Financing projects to facilitate a lower carbon economy
- > Transparency over use of proceeds
- > Diversifying to new currencies and countries to match infrastructure growth

A diversified solution investing in the transition to a low carbon economy, through green bonds and issuers which have positive environmental impact

- **Opportunities in a growing green bond universe.** The strategy is invested mainly in green bonds, which can offer the same returns as a comparable conventional bond¹ plus the added benefit of enabling projects with environmental benefits in a transparent manner. Given a relatively nascent green bond market, diversification is achieved by investing in issuers which facilitate the transition to the low carbon economy while displaying robust fundamentals. Green bond issues are mostly investment grade, but can also be high yield, enabling diversification across risk profiles, sectors and currencies.
- **Potentially attractive yield.** As a solution for investors looking to shift conventional investments towards specific environmental investments, the strategy has the potential to provide an attractive yield within the fixed income universe. This means that the investor is able to retain yield levels, relative to the wider fixed income universe, when investing in this solution while making a positive environmental impact.
- **A natural fit with Responsible Investment (RI).** The combination of our fixed income and RI experts enables us to make a holistic assessment of each issuer, from its environmental, social and governance (ESG) track record and quality, to its demonstrable environmental benefits of projects financed and to its use of bond proceeds. The team takes fundamental credit views, with in-depth credit market knowledge gained across different market cycles, as well as from strong relationships with key issuers developed over the years. Supported by our vast fixed income resources, the team carries out both portfolio management and relative value research, enabling well and proactive decision-making.
- **Fundamental, conviction-based bond selection.** We believe that investing in sustainable assets can create long term value and attractive returns, both financially and environmentally. The team employs rigorous bond selection based on the RI eligible universe, filtering names which are not contributing to the low carbon economy and carrying out in-depth fundamental credit analysis at sector and issuer level to construct an efficient portfolio. This is integrated into our well established global fixed income process, which identifies top-down and technical investment opportunities.
- **Draws on our long-standing experience.** AXA IM has been strategically committed to RI since 1997. AXA IM fixed income offers a wealth of experience built over various market cycles, with €450² billion of fixed income assets under management. The strategy will draw on AXA IM's global fixed income process and harness the dedicated investment team of six portfolio managers and analysts, which is fully supported by fundamental credit researchers, portfolio engineers, economists and strategic traders and the 17 RI and Impact experts.

¹ Source: The authors' best fit to the transition of a green levels of the Planet Bonds strategy that have comparable credit and financial performance to conventional ones. AXA IM Bloomberg as of 11/18/15
² Source: AXA IM Responsible Capital Finance as of 2015/12
³ Source: AXA IM as of 2015/12. Unaudited data.
⁴ Source: The Climate Bonds Initiative

www.axa-im-international.com



its ESG track record and quality, to evidence of the environmental benefits from projects financed by bond proceeds.

Fundamental, conviction-based bond selection. We believe that investing in sustainable assets can create long term value and attractive returns, both financially and environmentally. The team employs rigorous bond selection based on fundamental credit and ESG analysis at sector and issuer level to construct an efficient portfolio. This is integrated into our well established global fixed income process, which identifies top-down and technical investment opportunities.

AXA IM's long-standing experience. AXA IM has been strategically committed to RI since 1997. AXA IM fixed income offers a wealth of experience built over various market cycles, with EUR 450bn of fixed income assets under management. The AXA IM Planet Bonds strategy draws on AXA IM's global fixed income process and is supported by fundamental credit researchers, portfolio engineers, economists and strategists, traders and the AXA IM RI team.

Press release

Private placements are growing as demonstrated by Schneider's green bond issuance in the French market last year. AXA IM was a leading partner in completing this deal, allocating almost 80% (EUR 160mn) of the issue. With the expansion of the market in green investments, we view having a highly selective investment approach as critical.

Source: AXA IM as at 31.12.2015

The Planet Bonds strategy is subject to credit and counterparty risk.



THOUGHT LEADERSHIP-INVESTOR THINKING AN ESG INTEGRATED APPROACH TO BUY AND MAINTAIN CREDIT INVESTING

Over the past several years, both Smart Beta strategies and RI have garnered increasing attention from investors across the globe – first in the equity space, now in the credit space. Though seemingly unrelated, both trends signal a move by investors away from unintentional and often uncompensated risks associated with traditional index-tracking strategies. Investors are also increasingly recognising the importance of ESG factors in creating long-term value.

In this paper, we demonstrate that a ‘Buy and Maintain’ Smart Beta credit portfolio which incorporates ESG factors is not only

compatible in terms of portfolio characteristics and results, but also that the two approaches are mutually reinforcing: the introduction of ESG criteria aims to reduce issuer-specific credit risk within a Buy and Maintain portfolio, while the Smart Beta approach addresses the biases of traditional ESG fixed income strategies.

An ESG Smart Beta credit portfolio can potentially offer investors the desired portfolio characteristics – higher returns than the index with improved diversification-together with strong ESG performance.

INVESTOR THINKING

AN ESG INTEGRATED APPROACH TO BUY AND MAINTAIN CREDIT INVESTING

Over the past several years, both Smart Beta strategies and responsible investment (RI) have garnered increasing attention from investors across the globe – first in the equity space, now in the credit space. Though seemingly unrelated, both trends signal a move by investors away from unintentional and often uncompensated risks associated with traditional index-tracking strategies. Investors are also increasingly recognising the importance of environmental, social and governance (ESG) factors in creating long-term value.

In this paper, we intend to demonstrate that a ‘Buy and Maintain’ Smart Beta credit portfolio which incorporates ESG factors is not only compatible in terms of portfolio characteristics and results, but also that the two approaches are mutually reinforcing: the introduction of ESG criteria aims to reduce issuer-specific credit risk within a Buy and Maintain portfolio, while the Smart Beta approach addresses the biases of traditional ESG fixed income strategies.

An ESG Smart Beta credit portfolio can potentially offer investors the desired portfolio characteristics – higher returns than the index with improved diversification-together with strong ESG performance.

Investing in today's credit market

Corporate bonds represent one of the largest and deepest financial markets, and constitute a core asset class for many institutional investors. However, the market is now far less liquid than it used to be, with recent regulatory changes, more traditional market makers keep market-maker inventories than they did pre-2008. For investors, this translates into lower market liquidity and higher transaction costs.

In the aftermath of the global financial crisis many central banks have kept rates near the zero bound, sending investors on a crucial and prolonged search for yield. This hunt for yield can help, at least in the short term, to

investing are asymmetric: the risk-adjusted returns from holding a corporate bond which does not default can be small when compared to the potential capital loss caused by a default. This asymmetry underscores the importance of careful research and selection to exclude bonds which carry a high probability of default. In the current low yield, tight spread environment, credit investors are rightly looking for defensive, low cost strategies which capture and protect yield over the long-term. In light of this new reality, the shortcomings of traditional index-tracking strategies, which have long been documented by academics, are being felt more acutely by investors.

INVESTMENT MANAGERS

INVESTOR THINKING

AN ESG INTEGRATED APPROACH TO BUY AND MAINTAIN CREDIT INVESTING

Market cap-weighted strategies can fall investors

Lower liquidity, higher transaction costs and historically low yields have forced a rethink of credit strategies. Traditional market cap-weighted credit indices present imbalances in terms of lack of diversification at the issuer, sector and country levels, creating systemic as well as issuer-specific risks. The reasons for this are obvious: using market capitalisation to build an index means allocating the highest proportion of assets to borrowers or sectors that have the most public debt outstanding, generally rewarding issuers that take on greater amounts of debt and subjecting investors to an onerous high amount of credit risk.

Passive investment strategies which follow market cap-based indices bear the entire brunt of these risks, incur unnecessary costs and forfeit potential return through blind adherence to ineffective rules (i.e. regular rebalancing and requirements to sell upon downgrades). Furthermore, by not participating in primary issuance they miss out on new issue premia and the related transaction costs.

‘Buy and Maintain’ – Not ‘Buy and Hold’

AXA IM's SmartBeta Credit philosophy adopts a Buy and Maintain approach that combines the added value of active risk-management with the aspirational efficiency of passive management, while remaining practical and grounded. Favoring deliberate judgment over blind adherence to rules makes our approach more intelligent than passive offerings while incorporating bottom-up credit analysis, defensive investment, the ability to capture new opportunities as they emerge and active risk management. This makes it well positioned to cope with constantly evolving market dynamics, issuer creditworthiness and ESG factors.

Is there a smarter way?

In 2012, AXA Investment Managers (AXA IM) introduced their own ‘SmartBeta Credit’ strategy that substantially broke from market cap-weighting and other rules-based methods, instead embracing a carefully designed Buy and Maintain philosophy centered on efficient long-term beta harvesting. Investors quickly favored this strategy which explicitly addresses the fundamental flaws of traditional credit indices. The overall aim of our SmartBeta Credit philosophy is to harness the maximum amount of yield from the investment grade credit markets on a long-term basis with potentially lower downside risks owing to the combination of factor regional, sector and issuer diversification, superior fundamental credit research and a Buy and Maintain, low turnover approach.

Increasing calls for ESG integration

Investor demand for ESG integration, a key characteristic of our Buy and Maintain approach to the use of bottom-up fundamental credit analysis to reduce credit risk. While traditional credit research might implicitly consider some ESG elements in the assessment of an issuer's fundamentals, there is increasing demand from investors to explicitly integrate ESG factors in credit research and portfolio construction. According to the Global Sustainable Investment Alliance's 2012 revealed assets that use ESG criteria into account rose to US\$21 trillion, a 40% increase from 2010 to 2014. At AXA IM, we first developed ESG integration for equities, leveraging on the work we have now expanded our ESG integration expertise to the credit space. Our ESG SmartBeta Credit methodology explicitly introduces environmental criteria in credit analysis which can significantly contribute to financial return risk.

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INVESTOR THINKING

AN ESG INTEGRATED APPROACH TO BUY AND MAINTAIN CREDIT INVESTING

The link between ESG and creditworthiness

Academic research and several recent cases offer evidence suggesting links between ESG factors and credit quality (Figure 1). ESG criteria may reflect the quality of a firm's management or act as a leading indicator of slow burning problems which could later impact creditworthiness. As such, introducing ESG criteria into the credit selection process creates a more holistic decision-making process which includes information on certain risks that cannot be readily identified through traditional credit analysis or public credit ratings.

While it is therefore clear that the introduction of extra-financial ESG criteria can contribute to reducing issuer-specific risks in a portfolio, it is still essential to maintain adequate portfolio diversification. An old school ESG investment strategy would mainly consist of negative screening or exclusion, by tracking a market cap-weighted index and removing the issuers that do not comply with pre-defined ESG criteria. This exclusionary approach suffers from the shortcomings of passive management while introducing further biases, such as over-weighting financials and under-weighting industrials and underweighting debtors to over-concentration in the most indebted issuers as well as certain regional biases.

ESG and SmartBeta – A Natural Fit

Over the past several years, both Smart Beta strategies and RI have garnered significant

attention from investors across the globe. These two trends signal a move by investors away from unintentional risks related to traditional market cap-based index-tracking strategies.

As practitioners, we are encouraging increasing interest from institutional investors for Smart Beta strategies, and also for the explicit inclusion of ESG factors as part of their stated investment policies – without wanting to compromise on the risk/return profile.

Credit investing requires consideration of all pertinent risk factors. Whereas Smart Beta and Smart Beta combine an approach – meaning they rely mostly on factors regarding an issuer's activities, in addition to the impacts on its stakeholders and surrounding environment. In essence, RI covers a range of investment decisions which

integrate ESG considerations and comprehensive into financial analysis and decision-making. ESG risks may directly relate to an issuer's activity or sector and have the potential to negatively impact creditworthiness and/or credit regulatory risks. Given the nature of ESG risks, the possible negative consequences can prove detrimental to the issuer, investors and society large. Looking at the philosophical foundations of AXA IM's SmartBeta Credit strategy and RI, integrating ESG risks naturally fits with the objective of avoiding uncorrelated risks. In practice, ESG and Smart Beta combine an approach – meaning they rely mostly on factors regarding an issuer's activities, in addition to the impacts on its stakeholders and surrounding environment. In essence, RI covers a range of investment decisions which

Figure 1: ESG credit – Academic takeaways

Authors	Key Findings	E/S/R
Barry, Henry and Joffe 2000	Stock return ratios to zero, consistent with joint emitter relations on beta placed to best financial interest	Social
Although-Duval, Hubs and Ryan 2005	Strong and efficient corporate governance policies contribute to reducing issuer default risk, thereby positively influencing the credit spread	Governance
Boyer and Froot 2011	Drop on S&P 500 from 1995 to 2005; they will gain exceptional management but higher cost of debt, lower bond ratings and lower issuer credit	Environment

Source: AXA Investment Managers
*Barry, S. Henry and Joffe 2000, Corporate Reputation and the Credibility of Issuance of Corporate
*Although-Duval, Hubs and Ryan 2005, Corporate Reputation and the Credibility of Issuance of Corporate
*Boyer and Froot 2011, Corporate Reputation and the Credibility of Issuance of Corporate
*Barry, S. Henry and Joffe 2000, Corporate Reputation and the Credibility of Issuance of Corporate

INVESTMENT MANAGERS



THOUGHT LEADERSHIP-INVESTOR THINKING HOW CAN INVESTORS FIGHT CLIMATE CHANGE?

Financial considerations have emerged as a new force for integrating climate change on investors' agendas, driven by the fact that renewable energy is becoming increasingly viable, and the costs of ignoring climate change are growing ever greater.

Climate change is an important topic for the investment community, as existing practices in financial markets and regulations are at odds with policies to limit the global temperature increase to 2°C.

Clients can invest in and therefore contribute to the transition to a low-carbon economy, by divesting from highest carbon intensive issuers and by engaging with companies that are shifting their high carbon intensive businesses to less polluting and more climate friendly activities.

Investors that are aligned with our view that climate change is a long-term trend may wish to consider including it as a criteria of risk and opportunity within their ESG framework. Such a framework can be most useful for investment decisions towards containing climate change.

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INDEPTH Investor Thinking

HOW CAN INVESTORS FIGHT CLIMATE CHANGE?

Climate change is increasingly taking a prominent position on the international business agenda, with several important factors making the case for investing in the transition to a low-carbon economy. The cost of renewable energy has been steadily decreasing, the profitability of the fossil fuel industry is under increasing pressure and climate change awareness is gaining traction as it becomes a public health issue in the most polluted countries. This paper by our Responsible Investment team identifies the possibilities for investing in the transition to a low-carbon economy and discusses potential strategies to manage the financial risks and increase the environmental impact of your investments.

SPEED READ

- Financial considerations have emerged as a new force for integrating climate change on investors' agendas, driven by the fact that renewable energy is becoming increasingly viable, and the cost of ignoring climate change are growing ever greater.
- Climate change is an important topic for the investment community, as existing practices in financial markets and regulations are at odds with policies to limit the global temperature increase to 2°C.
- Clients can invest in, and therefore contribute to, the transition to a low-carbon economy, by divesting from the most carbon intensive issuers and by engaging with companies that are shifting their high carbon intensive businesses to less polluting and climate friendly activities.
- The transparency and commitment of green bond issuers have encouraged more issuers to enter the market, increasing opportunities to invest in environmentally friendly projects. The growing green bond market is an important area that clients should consider.
- Investors that are aligned with our view that climate change is a long-term trend should consider including it as a criteria of risk and opportunity within their environmental, social and governance (ESG) framework. Such a framework can be most useful for investment decisions towards containing climate change.

INVESTMENT MANAGERS

INDEPTH Investor Thinking

HOW CAN INVESTORS FIGHT CLIMATE CHANGE?

Why does climate change matter in today's economy?
The need to mitigate climate change has been increasingly acknowledged in recent years, with the recognition that a rise in global temperatures of over 2°C would create massive disruption to our environment and to our economies. As companies are affected by climate change, fundamental analysis and sector allocation that influence asset allocation in investment portfolios will also be impacted. This section looks at the reasons that are pushing climate change to the top of investors' agendas.

Essentially, it's about economics
Besides political and regulatory reasons (discussed at the end of this section), the financial viability of climate change investments is finally pushing the subject of climate change and a low-carbon economy to the top of investors' interests. This can be explained by four main reasons:

- The cost and the increasing capacity of renewable energy is becoming competitive.** The cost of producing energy from renewables has been steadily decreasing and is now no more expensive than traditional sources, a phenomenon known as grid parity. As seen in Exhibit 1, the levelised cost of electricity (LCOE) for solar, which is already under €0.5/MWh when compared to fossil fuels, such as coal-fired plants at 90 \$/MWh or even nuclear at 46 \$/MWh. On the other hand, the cost of renewable energy sources, including solar and off-shore wind, continues to fall over time and estimates predict that costs will decrease by 20-50% over the next ten decades¹. The International Energy Agency (IEA) estimates that in 2014 the financial support for renewables was \$105bn and that for the fossil fuel industry it was \$553bn. These subsidies artificially lowered the end-user prices of conventional energy², thus creating more barriers to cleaner alternatives to carbon-intensive fuels.

Exhibit 1: The levelised cost of energy - June 2015

Energy Source	LCOE (\$/MWh)
Large Hydro	~10
Nuclear	~46
Solar PV	~0.5
Coal	~90
Gas	~46
Wind	~0.5

Source: Bloomberg GEC, IREZ June 2015

1. "Only Italy is a rare case to expect that an alternative source of energy (such as wind or solar) has a lower installation cost to producing from an existing grid."
2. "We believe our energy is a reason for renewable energy growth, as it is becoming more competitive than fossil fuels." Bloomberg GEC, IREZ June 2015, page 20.
3. "Between the 1980s to the 2010s, the LCOE of wind power has fallen by a factor of over three times, from over \$100/MWh to approximately \$20/MWh. There has also been a significant decrease in the LCOE of solar power." Bloomberg GEC, IREZ June 2015, page 20.
4. "The IEA's Green Book Review (GBR) estimates that the total cost of fossil fuel subsidies in 2014 was \$553 billion, compared to \$105 billion for renewable energy." Bloomberg GEC, IREZ June 2015, page 20.

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INDEPTH

- A pivotal point for oil and gas companies.** The oil and gas industry has been struggling with decreasing returns on capital despite historically high oil prices during the last decade, with the recent crash in oil prices only making matters worse. This was partly due to cost inflation in the oil services sector and poor project management. The precipitous oil price decline since mid-2014, a result of overcapacity, has made the fundamental economics of oil increasingly challenging. Carbon emissions reduction could lead to a severe drop in demand for oil, lowering the oil price further and exacerbating financial difficulties for the sector. This is compounded by the fact that most, if not all, low-cost oil (cheapest) oil is in state-owned hands, meaning that reserves left in the private sector are, technically, environmentally and economically challenging areas such as ultra-deep-water, the Arctic or oil sands. In addition, if oil prices were to return to the pre-2014 higher levels, the incentive to switch to low-cost energy alternatives, including electric, vehicle and the use of renewables in power generation, would increase further.
- Public health risks increase the pressure to act.** In 2015, data from China's Ministry for Environmental Protection showed that air quality failed to meet national standards one third of the time³. This issue has already moved to the top of the political agenda. The protection from Atmospheric Pollution was already integrated into China's 12th Five-Year Plan through measures encouraging clean energy, saving water and environmental protection. China is increasingly to demand for more non-fossil fuel energy including nuclear and other products and services that are expected to help the government achieve its environmental targets. In 2014, China made the largest investment (\$85.5bn)⁴ globally in renewable energy. Currently, China is the world's largest carbon emitter and its recent actions towards lower emissions will set the tone for future regulations and climate negotiations on the global stage.
- The costs of climate risks are rising.** Over the past 50 years, the cost of climate-related natural disasters has been multiplied by more than five and the cost to society was multiplied by more than ten⁵. This has serious implications for developers, insurers, bond rates and issuers and local governments, not to mention property owners and businesses located along coastlines⁶. The overall cost of the risks associated with climate change, as estimated by the Stern Review⁷, will be equivalent to losing at least 5% of global GDP each year. If indirect risks and impacts are estimated, the estimate of damages could rise to more than 20% of global GDP indicating that investors should act sooner rather than later.

³ "Only Italy is a rare case to expect that an alternative source of energy (such as wind or solar) has a lower installation cost to producing from an existing grid."
⁴ "We believe our energy is a reason for renewable energy growth, as it is becoming more competitive than fossil fuels." Bloomberg GEC, IREZ June 2015, page 20.
⁵ "Between the 1980s to the 2010s, the LCOE of wind power has fallen by a factor of over three times, from over \$100/MWh to approximately \$20/MWh. There has also been a significant decrease in the LCOE of solar power." Bloomberg GEC, IREZ June 2015, page 20.
⁶ "The IEA's Green Book Review (GBR) estimates that the total cost of fossil fuel subsidies in 2014 was \$553 billion, compared to \$105 billion for renewable energy." Bloomberg GEC, IREZ June 2015, page 20.
⁷ "The overall cost of the risks associated with climate change, as estimated by the Stern Review, will be equivalent to losing at least 5% of global GDP each year. If indirect risks and impacts are estimated, the estimate of damages could rise to more than 20% of global GDP indicating that investors should act sooner rather than later." Bloomberg GEC, IREZ June 2015, page 20.

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EXPANSION OF ESG FUNDAMENTAL RESEARCH

In 2015, we began to significantly reinforce our ESG Fundamental Research team and coverage. This decision was motivated by the acceleration of the ESG integration process among our clients and also by the consolidation of the Green Bond market.

The RI team works on a daily basis with AXA IM investment platforms across asset classes to reach decisions on material ESG factors for investment. In addition, our clients recognise AXA IM as a robust partner in their ambitions to integrate ESG fundamental research into their investment decisions and solutions.

In 2015, our ESG Fundamental Research team conducted deep ESG analysis expanding beyond equities, especially into fixed income and green bonds. This required methodology development and innovation to enable us to integrate ESG criteria into the investment process in a material and pragmatic way.

ESG Fundamental Research is now organised across seven main sectors: Financials, Transport, Sciences, Consumers, Energy, TMT and Real Assets. Each pole is covered by a lead analyst responsible for embedding ESG content into their sector and thematic analyses. Our ESG fundamental analysts have diverse backgrounds and experiences from the financial, NGO and RI worlds; their common ground is their strong ESG convictions and their ability to influence portfolio managers' decisions with their views.

We also have a dedicated analyst for green bonds. Beyond climate change, we are reinforcing our Impact framework by expanding our fundamental research into the listed impact field as well.

RECOGNISED LEADERSHIP IN IMPACT



WINNER
Award for Innovation

AXA IM's Impact Investment programme was launched in September 2013 with an initial commitment from the AXA Group of EUR 150mn. This initial commitment was then increased by a further EUR 50mn in 2015. As a result, The AXA IM Impact Investment programme now manages EUR 200mn.

The AXA IM Impact Team won the Innovation Award at Investment Week's Sustainable Investment Awards 2015; a clear recognition of our leadership through innovation in the Impact Investment industry.

The Sustainable Investment Awards from Investment Week is firmly established as one of the key benchmarks for excellence, innovation and quality and recognises the industry's leaders in Sustainable Investment.

The next phase of RI will be the incorporation of Impact. We see Impact investment as a wave – it started with private placements and alternatives, but will grow to touch all asset classes, including listed and public securities. We believe that in time, the culture of impact measurement will become embedded across the financial industry.

INTENTIONAL
MEASURABLE
POSITIVE
ACCESS
COMMITMENT
TANGIBLE

RECOGNISED LEADERSHIP IN REAL ASSETS



The Treurenberg, Brussels' first net zero energy building, recently won the award for "Best Innovative Green Building" at the MIPIM Awards Ceremony in Cannes – a prestigious and revered event that brings together real estate professionals from over 80 countries.

Developed by the AXA IM Real Assets team, the Treurenberg provides 10 500m² of lettable office space and is equipped with the most advanced renewable energy technology. Due to this technology, the development already meets European energy standards set for 2020 and has been certified as Excellent by BREEAM. All efforts towards innovative design have enabled the total annual energy consumption of the project to be offset by on-site renewable energy generation.

This development affirms that AXA IM Real Assets' sustainable development strategy is underway towards obtaining a certification on 75% of its real estate AUM by 2030.

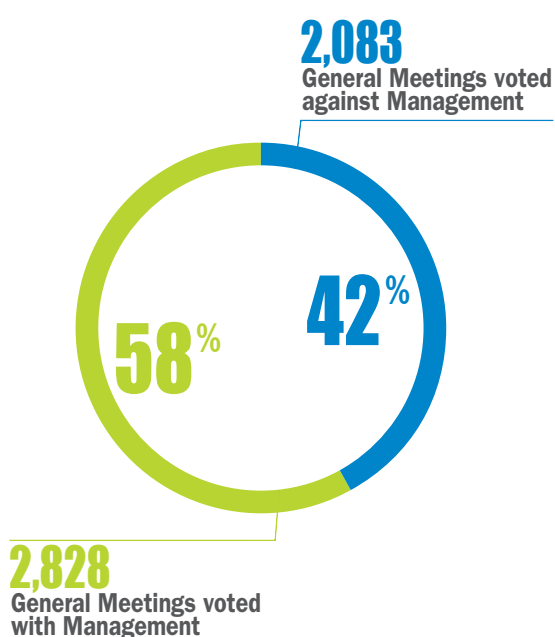
The references to league tables and awards are not an indicator of the future places in league tables or awards.
Investment Week Innovation Award: November 2015.
MIPIM Award: March 2016.

ACTIVE STEWARDSHIP VOTING/ENGAGEMENT

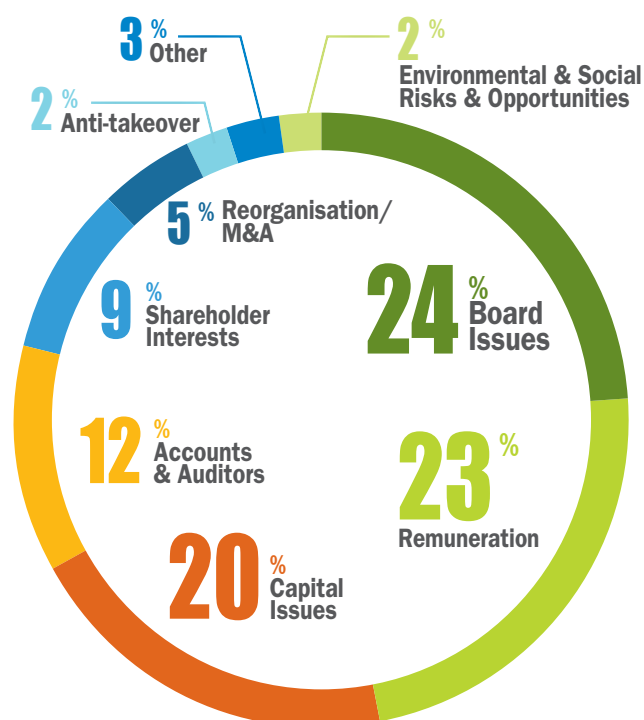
Our Stewardship activities expanded to a global voting perimeter of 4,911 Annual General Meetings. Equally as important, our engagement activities focused on key themes where objectives to improve company performance were defined and outcomes were achieved.

For more information you can also refer to the [AXA IM Annual Stewardship Report](#) and to the [AXA IM Corporate Governance and Voting Policy](#).

4,911 General Meetings



Dissenting votes



Source: AXA IM as at 31.12.2015

Our full voting records are published [here](#).

Over the course of 2015, we engaged with 230 companies on a broad range of issues.

EXAMPLES

COMPANY	ISSUES	COUNTRY
Fortescue Metals Group	Shareholder Rights	Australia
Royal Dutch Shell	Strategy - Remuneration - M&A - Environment	Netherlands
Standard Chartered	Performance - Strategy - Board - Remuneration	UK
Vivendi	M&A - Shareholder Rights	France
Volkswagen AG	Environment	Germany
Ford	Emissions & Environmental Impacts	USA
BHP Billiton	Environmental & Safety Risks	UK
HSBC	Board Oversight - Conduct Issues	UK
Toyota	Emissions - Environmental Impact	Japan
Enagas	Performance - Strategy - Board Diversity	Spain

PRESS CLIPPINGS

RI Annual Review 2015

“Climate risk is becoming synonymous with reputation risk,” said Luisa Florez, Head of ESG Fundamental Research at AXA Investment Managers, which manages over €600bn of assets. “Undoubtedly, there are a number of factors behind the recent decline in oil prices, such as shale gas development. Nevertheless, moral issues are also playing a growing role, with the divestment movement steadily gaining traction amongst investors across the globe.”

Guardian, 16 January 2015

Another concern about setting firmer standards in the green bond market is that it would reduce competition and create a more generic product. “The initiatives that are out there now are good [and are] creating new and competing ideas,” said Matt Christensen, global head of responsible investment at AXA Investment Managers. “If you put that stamp on it too quickly you risk slowing down the market too quickly.”

Global Capital, 5 March 2015

“The majority of chairmen understand the role but we sometimes find the board doesn’t intervene as quickly as we would like. They sometimes give the benefit of the doubt,” said Shade Duffy, head of corporate governance at AXA Investment Managers, the fund arm of French insurer AXA. “That’s why we think it’s important for chairmen to have a good relationship with investors, so they can access what markets think about the performance of the company and executives.”

Reuters, 23 April 2015

“Over time we will see that some superannuation schemes will follow what we’ve been seeing happening with endowments and charities, as owners of capital create a dedicated pocket for impact investment,” said Matt Christensen, Head of Responsible Investment at AXA IM.

Responsible Investor, 27 November 2015

TO WATCH IN 2016

We believe that 2016 will be the continuation of the ‘RI Big Bang’ of 2015 and a milestone year during which RI progresses from a specialist area to a ‘must have’ feature of asset management.

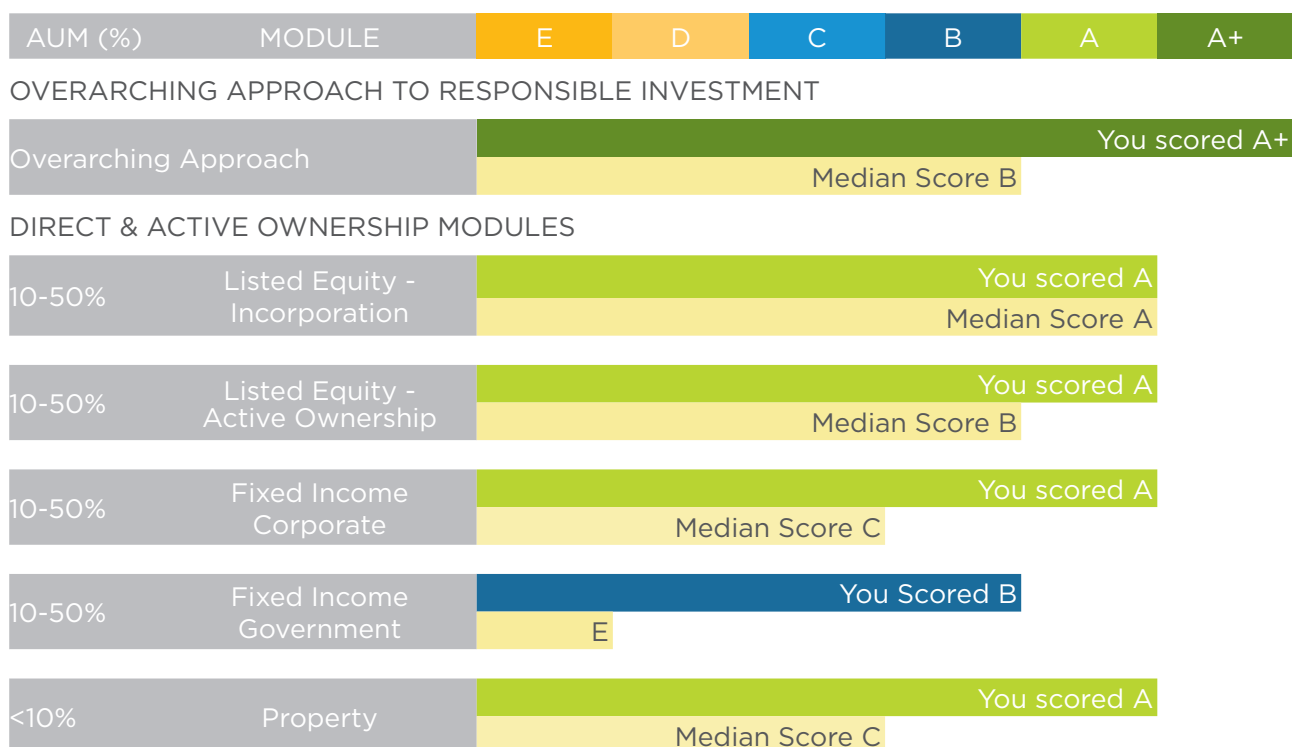
Some of the notable developments the AXA IM RI and Impact team will be anticipating in 2016:

- › In a post COP 21 environment, investors from around the globe are seeking to better understand implications and choices around their investment decisions in a carbon constrained market environment. In France, investors are preparing for regulatory changes that will demand improved communication on how climate change factors will be monitored.
- › ESG integration is increasingly being discussed, whether it be the most recent clarification on ERISA law in the USA or the EU review of fiduciary duty for pension funds. Even in softer regulatory approaches, we see for example the Financial Stability Board urging companies to better disclose climate risks, which will in turn increase transparency on ESG issues.
- › Impact investment is becoming a natural extension of RI as a valuable complement to ESG integrated investments. What was once a discussion only in the alternative asset classes is becoming a hot topic into fixed income, listed equity and other areas of the investment spectrum. We see the acceleration of this phenomenon from Responsible Investments to Impact Investments over time.
- › We are aiming to launch our second Impact Programme and will also be working on an Impact fund in the listed equity space.

2015 PRI ASSESSMENT

AXA IM has been a signatory to the Principles for Responsible Investment since 2007. AXA IM is committed to supporting the principles. Each year, AXA IM's Responsible Investment Transparency Report is disclosed on the PRI website.

The table below presents an overview of AXA IM's 2015 PRI Assessment scores for each module, our score for our overarching approach to RI is A+.



The table below presents an overview of AXA IM's 2015 PRI Assessment scores for each module as compared to 2014 scores.

Module	2014 level	2015 level	Change
Overarching Approach Module	A	A+	↑
DIRECT & ACTIVE OWNERSHIP MODULES			
Listed Equity - Incorporation	A	A	—
Listed Equity - Active Ownership	A	A	—
Fixed Income Corporate	B	A	↑
Fixed Income Government	C	B	↑
Property	A	A	—

Source: UN PRI. June 2015.

OUR APPROACH TO RESPONSIBLE AND IMPACT INVESTMENTS



A comprehensive range of strategies to fit your objectives

From Responsible to Impact Investments

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